SHCHEGOLEV, V.N.

Heating surface of vacuum apparatus. Sakh.prom 30 no.12:22-28 D '56.
(MLRA 10:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.

(Vacuum apparatus)

SHCHEGOLOV, V.N.

Increasing the efficiency of evaporators. Sakh. prom. 31 no.1:21-27 Ja '57. (MLRA 10:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.

(Sugar machinery)

SHCHEGOLEV, V.N.

Determining the maximum rate of withdrawal of juice in rotary diffusion apparatus. Sakh. prom. 31 no.6:13-17 Je '57. (MLRA 10:6)

1. TSentral'nyy Nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.
(Diffusers)

TOBILEVICH, N.Yu.; SHCHEGOLEV, V.N.

New evaporators. Sakh.prom. 32 no.9:34-39 S '58. (MIRA 11:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.
(Evaporating appliances) (Sugar machinery)

SHCHEGOLEV, V.N.

Reducing sugar losses in diffusion. Sakh. prom. 33 no.2:19-26 F '59. (MIRA 12:3)

1.TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshennosti.
(Sugar manufacture)

KOVAL', Ye.T.; SHCHEGOLEV, V.N.

Analysis of the performance of a revolving multicell diffuser. Sakh. prom. 33 no.5:29-34 My '59. (MIRA 12:7)

1.TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.
(Sugar machinery) (Diffusers)

SHCHEGOLEV, V.N.

Selecting the conveying units for the automatic regulation of the output of beet slicers. Sakh.prom. 34 no.8: 28-32 Ag '60. (MIRA 13:8)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.
(Sugar beets)

SHCHEGOLEV, V.N., prof., zasluzhennyy deyatel' nauki RSFSR

It is necessary to apply a complex of measures. Zashch. rast. ot vred. i bol. 6 no.12:14-15 D '61. (MIRA 16:5)

1. Leningradskiy sel'skokhozyaystvennyy institut.

SHCHEGOLEV, V.N.

Determination of the total amount of products in a rotary diffuser. Sakh. prom. 35 no. 1:19-21 Ja '61. (MIRA 14:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti.
(Sugar manufacture) (Diffusion)

SHCHEGOLEV, V.N., prof.

What plant protectors must do in regard to row crop cultivation. Zashch. rast. ot vred. i bol. 7 no.7:21-22 Jl '62. (MIRA 15:11)

(Plants, Protection of)
(Rotation of crops)

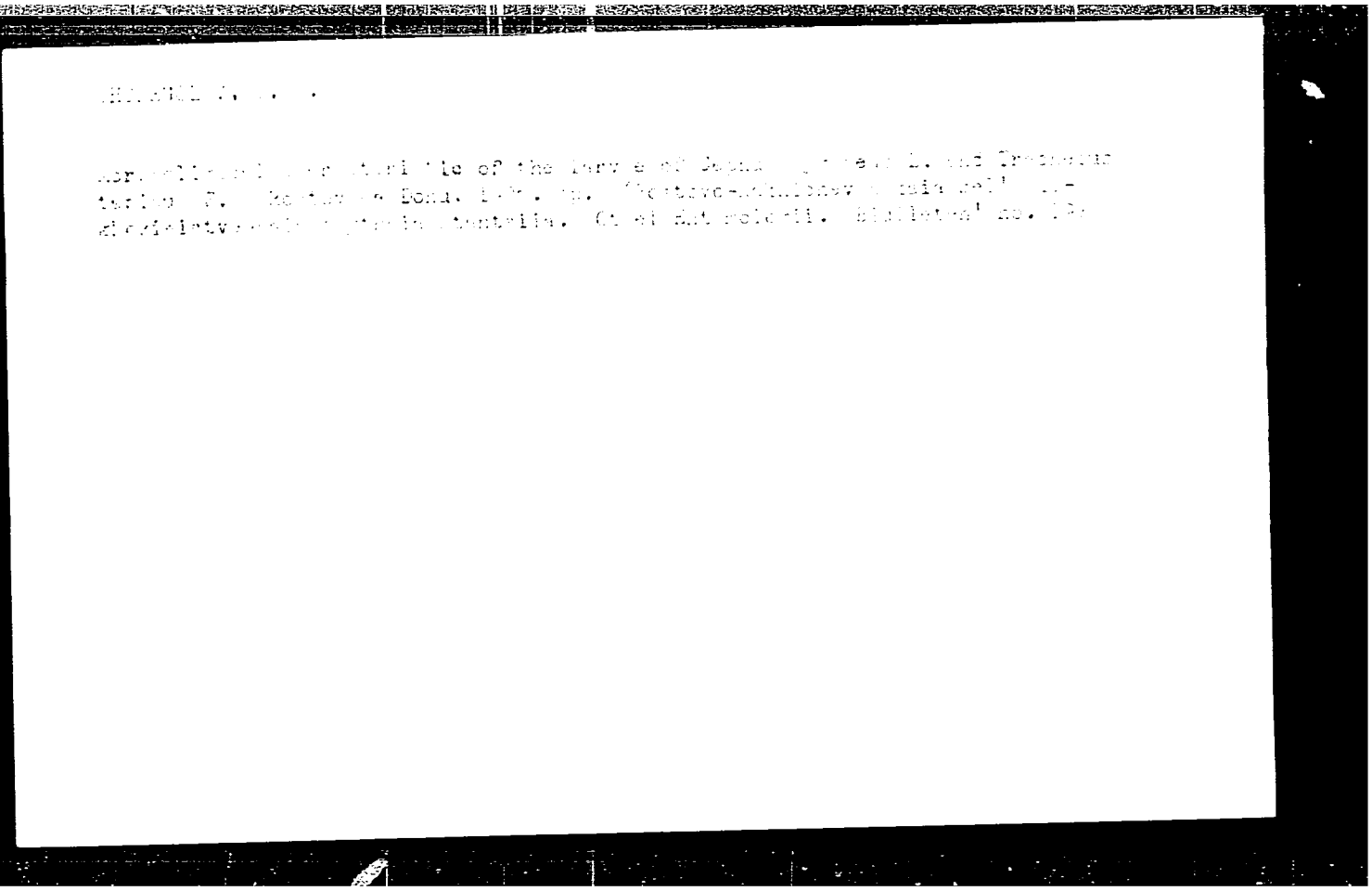
SHCHEGOLEV, V.N. [Shchoholiev, V.M.]

Method of cossette heating in rotary diffusers. Khar. prom. no.4 51-54 Ap-Je '65. (MIRA 18:5)

SHCHEGOLEV, V.N.; ZINGEL', I.Ye.

Improving the design of evaporating appliances. Sakh.prom. 36 no.11: 27-30 N '62. (MIRA 17:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut sakharnoy promyshlennosti (for Shchegolev). 2. Sablino-Znamenskiy sakharnyy zavod (for Zingel').



SHCHEGOLEV, V. N.

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SOURCE: SIRA SI 90-53, 15 Dec. 1953

SHCHEGOLEV, V. N.

SHCHEGOLEV, V. N. "Ecological-economic Foundation and Development of a Complex System of Measures for Protection of Hemp Against Pests and Diseases in the Zone of the Forest-steppe of the U.S.S.R.," Itogi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Institute Zashchity Rastenii za 1935 Goda, 1936, pp.249-255. 633.92 L54I

SOURCE: SIRA SI 90-53, 15 Dec. 1953

SHCHEGOLEV, V. N.

SHCHEGOLEV, V. N. "Effectiv-ness of the Measures for Controlling Pests and Diseases of Hemp on Kokholz Farms," Itogi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Institute Zashchity Rastenii za 1936 Goda, part 2, 1937, pp. 359-361. 423-92 L54I

SOURCE: SIRA SI 90-53, 15 Dec. 1953

SHCHEGOLEV, V.N.

Sel'skokhozyaystvchmaya Entomologicl; Vreditel'sel'skokmozyaye
Ivennykh kul'tur I mery sor'gy
s Meri. 2-c 120 Moskvk, Sel'kmozgiz, 1949
76 p. illus.

SHCHEGOLEV, V.N., professor, doktor sel'skokhozyaystvennykh nauk, redaktor; BERIM, N.G.; BEY-BIYENKO G.Ya.; BRYANTSEV, B.A.; BRYANTSEVA, I.B.; VOLGIN, V.I.; DANILEVSKIY, A.S.; ZIMIN, L.S. OSMOLOVSKIY, G.Ye., redaktor; RUBTSOV, I.A.; SHEVCHENKO, M.I.: SHCHEGOLEV, V.N.; YATSENKO, I.P.; SILAYEV, A.G., redaktor; GODOLAGINA, S.D., tekhnicheskiy redaktor.

[Entomologist's dictionary manual] Slovar'-spravochnik entomologa. Moskva, Gos.izd-vo selkhoz.lit-ry, 1955. 451 p. (MLRA 8:10)
(Entomology--Dictionaries)

SHCHEGOLEV, V. N. ,ed.

Sel'skokhozyaystvennaya entomologiya. Agricultural entomology, by G. Ya. Bey-Biyenko i Dr. 3 perer. izd. Moskva, Sel'khozgiz, 1955.
616 P. illus., diagrs.,
(Uchebniki i Uchebnyye Posobiya dlya Sel'skokhozyaystvennykh Vuzov)
Bibliography: P. 593-599.

SHCHEGOLEV, V.N.

New system of tillage and tasks of agricultural entomology. Zool. zhur. 34 no.3:481-490 My-Je '55. (MLRA 8:8)

1. Leningradskiy sel'skokhozyaystvennyy institut
(Tillage) (Insects, Injurious and beneficial)

SHCHEGOLEV, V N

P-2

[illegible] and Special Zoology. [illegible]

[illegible] Zhur - Biol., [illegible], [illegible], [illegible]0377

Author : [illegible]lev, [illegible]
Inst : [illegible]
Title : [illegible], Agricultural Engineering Methods.

Orig Pub : [illegible] vredit. [illegible], 1957, No 4, 21-24

Abstract : [illegible] of agricultural [illegible], techniques [illegible] sufficient [illegible] (the best pest, [illegible], and [illegible]) have been [illegible] to the high level of [illegible] agricultural engineering and [illegible] contemporary agricultural [illegible] tiply in massive quantities. For the new agricultural engineering techniques must be developed. Thus, when [illegible] fields were plowed without [illegible], the number of chalcids increased

Card : 1/2

15

USSR/General and Special Zoology. Insects. P-2

Abs Jour : Ref Zhur - Biol., No [illegible], 1958, No [illegible]

twenty fold, and they destroyed 75% of the beet root crops. When grains are harvested by the two-stage method and threshed at once, mass multiplication of the Eurygaster can be avoided. Little has been done to create varieties which are resistant to damage. Entomologists propose the development of methods of artificially altering the osmotic pressure of the cell juice of plants, of soil solutions, and of insect hemolymph. -- A.P. Adrianov

Card : 2/2

BEY-BIYENKO, G.Ya.; BERIM, N.G.; BRYANTSEV, B.A., BRYANTSEVA, I.B.; VOLGIN, V.I.; DANILEVSKIY, A.S.; ZIMIN, L.S.; KOZHANCHIKOV, I.V.; OSMOLOVSKIY, G.Ye.; RUBTSOV, I.A.; SHEVCHENKO, M.I.; YATSENKO, I.P.; SHCHEGOLEV, V.N., prof.,doktor s.-kh.nauk, red.; AKHREMOVICH, M.B., red.; CHUNAYEVA, Z.V., tekhn.red.

[Entomological dictionary and handbook] Slovar'-spravochnik entomologa. Izd.2., perer. i dop. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1958. 631 p. (MIRA 11:12)
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[Agricultural entomology] Sel'skokhoziaistvennaia entomologiia. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 448 p. (MIRA 13:7)

(Insects, Injurious and beneficial)

BATIASHVILI, I.D.; BEY-BIYENKO, G.Ya.; BOGDANOV-KAT'KOV, N.N.; GERASIMOV, B.A.; GILYAROV, M.S.; DMITRIYEV, G.V.; ZVEREZOMB-ZUBOVSKIY, Ye.V.; ZIMIN, L.S.; KOLOBOVA, A.N.; MEDVEDEV, S.I.; MISHCHENKO, A.I.; PETROV, A.I.; RYABOV, M.A.; SAVZDARG, E.E.; SELIVANOVA, S.N.; SKORIKOVA, O.A.; TROPKINA, M.F.; SHAPOSHNIKOV, G.Kh.; SHCHEGOLEV, V.N., prof., doktor sel'skokhoz.nauk; ESTERBERG, L.K.; YAKHONTOV, V.V.; REUTSKAYA, O.Ye., red.; CHUNAYEVA, Z.V., tekhn.red.

[Classification of insects on the basis of damage to crops] Opredelitel' nasekomykh po povrezhdeniiam kul'turnykh rastenii. Izd.4, perer. i dop. Leningrad, Gos.izd-vo sel'khoz.lit-ry, 1960. 607 p. (MIRA 14:1)

(Insects, Injurious and beneficial)

SHCHEGOLEV, V. N., prof.

Review of the distribution and forecast of the appearance of pests in 1960. Zashch. rast. ot vred. i bol. 5 no.6:64 Je '60. (MIRA 16:1)

(Agricultural pests)

SHCHEGOLEV, V.N., prof.

A series of popular scientific monographs on entomology. Zashch. rast. ot vred. i bol. 8 no.8:62 Ag '63. (MIRA 16:10)

[illegible], Vladimir N.[illegible], 1896-

[Entomology] Entomologiia. Moskva, Vysshaia shkola, 1964. 331 p. (MIRA 18:5)

USSR/Metals - Testing Equipment Jul 50

"Wire Tensometers for Measuring Plastic Deformations," M. A. El'yasheva, V. P. Shchegolev

"Zavod Lab" Vol XVI, No 7, pp 890-891

166T72

Outlines possibility for measuring greater relative deformations with wire tensometers. Discusses results of experiments for using various materials for wires. Wires most suitable for determination of considerable plastic deformations are those made of nichrome and annealed constantan. Best results shown by gauges made of annealed constantan wire

166T72

USSR/Metals - Testing Equipment (Contd) Jul 50

of 0.03 mm diameter. Concludes range of deformations measured with wire tensometers may be increased to 5-6%.

166T72

SHCHEGOLEV, V. P.

OBOLENSKAYA, Artimida Valentinovna, dots.; SHCHEGOLEV, Viktor Petrovich, st. nauchn. sotr.; AKIM, Garri L'vovich, dots.; AKIM, Eduard L'vovich, kand. tekhn. nauk; KOSSOVICH, Nadezhda L'vovna, dots.; YEMEL'YANOVA, Iraida Zakharovna, kand. tekhn. nauk; KOSAYA, G.S., kand. tekhn. nauk, retsenzent; NIKITIN, V.M., prof., red.

[Practical laboratory work on wood chemistry and cellulose] Prakticheskie raboty po khimii drevesiny i tselliulozy. Moskva, Lesnaia promyshlennost', 1965. 411 p. (MIRA 18:7)

1. Kafedra khimii drevesiny i tsellyulozy Lesotekhnicheskoy akademii im. S.M.Kirova (for Obolenskaya, Shchegolev, Akim, G.L., Akim, E.L.). 2. Kafedra anatomii i fiziologii rasteniy Lesotekhnicheskoy akademii im. S.M. Kirova (for Kossovich). 3. Zaveduyushchaya laboratoriyey fiziko-khimicheskikh issledovaniy Gosudarstvennogo nauchno-issledovatel'skogo instituta gidroliznoy i sul'fatno-spirtovoy promyshlennosti, Leningrad (for Yemel'yanova).

SHCHEGOLEV, Yevgeniy Yakovlevich

Radiotekhnicheskiye sredstva morskogo sudovozhdeniya.
Leningrad, "Morskoy Transport", 1956,
560 p. illus., diagrs., maps, tables. 23 cm.
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SHCHEGOLEV, Yu.I.

Two cases of embryonal hernia of the umbilical cord. Pediatriia 39 no.3:79-80 Mr '61. (MIRA 14:4)

1. Iz khirurgicheskogo otdeleniya (zav. Yu.I. Shchegolev) Razdolinskoy bol'nitsy (glavnyy vrach K.D. Lavrova) Uderey-skogo rayona Krasnoyarskogo kraya.
(UMBILICUS)

SHCHEGOLEVA, A. D.

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July 1954
Agriculture

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9136* **Influence of Flood Irrigation on the Soil-Building Process.** (Russian.) A. D. Shchegoleva. *Pochvovedenie*, 1953, no. 11, Nov., p. 14-25.

Irrigation by flooding over a period of 15 to 20 yrs. improves properties of an alkali soil. Tables. 7 ref.

SHCHERBOLEV, A. .

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So: Sum. No 470, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SAKHIN, S. I., kand. tekhn. nauk; SHCHEGOLEVA, A. M., inzh.; GUSAROV, A. D.; DUBINA, Ye. M.

Separate and simultaneous effect of molybdenum and tungsten on the temper brittleness and hardenability of steel. Metallovedenie 2:104-122 '58. (MIRA 13:9)
(Steel alloys--Heat treatment) (Molybdenum) (Tungsten)

PUSHKAREV, V.I.; SHCHEGOLEVA, A.M.; Prinimali uchastiye: DUNDICH, Ye.I.; VISHNEVSKIY, V.L.; LEYBFREYD, A.Yu.; MIZERNIK, P.A.; RAPUTOVA, Ye.M.; KHRISTOFOROV, T.A.; YAMPOL'SKIY, L.S., red.; STAKVEL', L., red.; BABIL'CHANOVA, G., tekhn. red.

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(Bibliography--Russia--Economic conditions)

YAKOVLEVA, Mariya Nilovna; SHCHEGOLEVA, B.I., redaktor; KHOVANSKIY, I.P., tekhnicheskiy redaktor

[What to read about the increase of labor productivity; a discussion of books] Chto chitat' o povyshenii proizvoditel'nosti truda; beseda o knigakh. Moskva, Gos. biblioteka SSSR im. V.I.Lenina, 1956. 15 p. (Bibliography--Labor productivity) (MLRA 9:11)

SUSHKO, Aleksandr Grigor'yevich; SHCHEGOLEVA, B.I., redaktor; KHOVANSKIY, I.P., tekhnicheskiy redaktor

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SHCHEGOLEVA, G.I., mladshiy nauchnyy sotrudnik.

Thermal method for ridding dried fruit of storage pests through disinfection. Ref.nauch.rab.VNIIKP no.2:85-87 '54. (MLRA 9:4) (Fruit--Evaporation) (Disinfection and disinfectants)

SHCHEGOLEVA, G.I.

Heat method of destroying vermin on dehydrated fruit and vegetables at food preservation plants. Kons. i ov. prom. 12 no.11:23-25 N '57. (MIRA 11:1)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Food, Dried) (Food contamination)

SHCHEGOLEVA, G.I.

Control of the black currant gall mite. Kons. i ov. prom. 13 no.12:27-30 D '58. (MIRA 11:12)

1.TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Black currant--Diseases and pests)

SHCHEGOLEVA, G.I.

Use of "selenon" (ammonium derivative of dinitro-o-cresol) for controlling fruit pests. Kons. i ov. prom. 14 no.7:20-22 Jl '59. (MIRA 12:9)

1.TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Fruit--Diseases and pests) (Cresol)

SHCHEGOLEVA, G.I.

How to protect dried fruits from pests under domestic conditions. Kons.i ov.prom. 15 no.1:42-43 Ja '60. (MIRA 13:5)

(Fruit--Diseases and pests)

FRUMKIN, M.L.; SHCHEGOLEVA, G.I.; BARSKAYA, E.M.

Use of rays for the disinfestation of food products. Kon.i ov. prom. 17 no.11:23-26 N '62. (MIRA 15:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut konservnoy i ovoshchesushil'noy promyshlennosti.
(Insects in food)

SHCHEGOLEVA, G.I., starshiy nauchnyy sotrudnik

Disinfecting dried fruits. Zashch. rast. ot vred. i bol. 8 no.9:14-15 S '63. (MIRA 16:10)

1. TSentral'nyy institut konservnoy i ovoshchesushil'noy promyshlennosti, Moskva.

ACC NR: AR6028772 SOURCE CODE: UR/0269/66/000/006/0065/0065

AUTHOR: Shchegoleva, G. P.

TITLE: On the manifestation of Spoerer's law in solar activity

SOURCE: Ref. zh. Astronomiya, Abs. 6.51.496

REF SOURCE: Solnechnyye dannyye 1965, no. 8, 1965, 70-73

TOPIC TAGS: astronomic observatory, sunspot

TRANSLATION: The appearance of spots on the solar disc for the last five 11 year cycles of solar activity (1916-1961) was investigated. The investigation was based on Greenwich Observatory catalogs (cycles No's 15-18) and on the bulletin *Solnechnyye dannyye* (cycle No. 19). Each group of spots was considered only once. Activities of the northern and southern solar hemispheres were considered separately. The latitude belts within the limits of 0-45° were divided into 5° zones; for these zones, the annual numbers of the observed groups were calculated. It was found that the maximum activity at high latitudes takes place at the beginning of the cycle; at lower latitudes, the maximum is reached somewhat later. This substantiates the Spoerer law of the frequency of occurrence of sunspots. The nature of the latitude drift of the sunspots varies from cycle to cycle and is different in the northern and southern hemispheres. Two drifting maximums of spots were observed in cycles 16, 17, and 18 in one of the solar hemispheres; they were separated by a time interval of 2-3 years. V. Chistyakov.

SUB CODE: 03

Card 1/1 UDC: 523.745

VOROZHTSOV, N.N., mladshiy; PAVLYASH, V.A.; PRUDCHENKO, A.T.; SHCHEGOLEVA, G.S.

Pentafluorobenzoylacetic ester. Zhur. ob. khim. 35 no.8: 1501 Ag '65. (MIRA 18:8)

1. Novosibirskiy institut organicheskoy khimii Sibirskogo otdeleniya AN SSSR.

S/020/63/148/003/033/037
B101/B186

AUTHORS: Shchegoleva, L. S., Tegunov, A. V., Glikman, T. S., Dain, V. Ya.

TITLE: Photochemical and radiochemical reduction of silver perchlorate in the presence of organic substance

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 3, 1963, 633 - 636

TEXT: Experiments with silver perchlorate were carried out in order to clarify whether the effect of organic admixtures on photochemical and radiochemical processes has any common features. 0.035 M $AgClO_4$ in water was irradiated by a mercury vapor lamp; the direct photochemical decomposition of water was prevented by a filter with 0.02 M NaOH. Further, $AgClO_4$ of the same concentration was irradiated by x-rays, dose $5.6 \cdot 10^{16}$ ev/ml·sec. Before the experiments the solutions were bubbled with argon. Methanol, ethanol, butanol, ethylene glycol, glycerol, and urea were used as admixtures in concentrations of up to 3 M. It was found that even small admixtures of organic substances reduced Ag^+ both under UV and x-ray irradiation. This reduction increased with increasing concentration of the admixture, but only slowly at concentrations higher than 1 M. The yield G was calculated for

Card 1/3

Ag radiolysis; and the amount L of Ag (g-atoms) formed in 30 min was calculated for the photolysis. L was proportional to the quantum yield. The following values were found for 0.5 mole/liter admixture: methanol, G = 7.6, $L = 6.5 \cdot 10^{-3}$; ethanol, G = 6.5, $L = 5.8 \cdot 10^{-3}$; butanol, G = 6.3, $L = 5.1 \cdot 10^{-3}$; ethylene glycol, G = 5.8, $L = 4.8 \cdot 10^{-3}$; glycerol, G = 5.0, $L = 3.3 \cdot 10^{-3}$; urea, G = 2.8, $L = 1.0 \cdot 10^{-3}$. Conclusions: Irradiation excites the Ag^+ ion. The admixtures act as donors; a direct contact between silver ion and donor is not necessary; the electron transfer may be effected via the H_2O molecules along a chain of H bonds and σ bonds. The parallelism observed between radiolysis and photolysis suggests that, in the former too, it is not only the solvent radicals that are important but also the excitation of the silver ion. There are 2 figures and 1 table. The most important English-language reference is: E. J. Hart, J. Am. Chem. Soc., 81, 6085 (1959); 82, 4775 (1960).

ASSOCIATION: Institut fizicheskoy khimii im. L. V. Pisarzhevskogo Akademii nauk USSR (Institute of Physical Chemistry imeni L. V. Pisarzhevskiy of the Academy of Sciences UkrSSR)

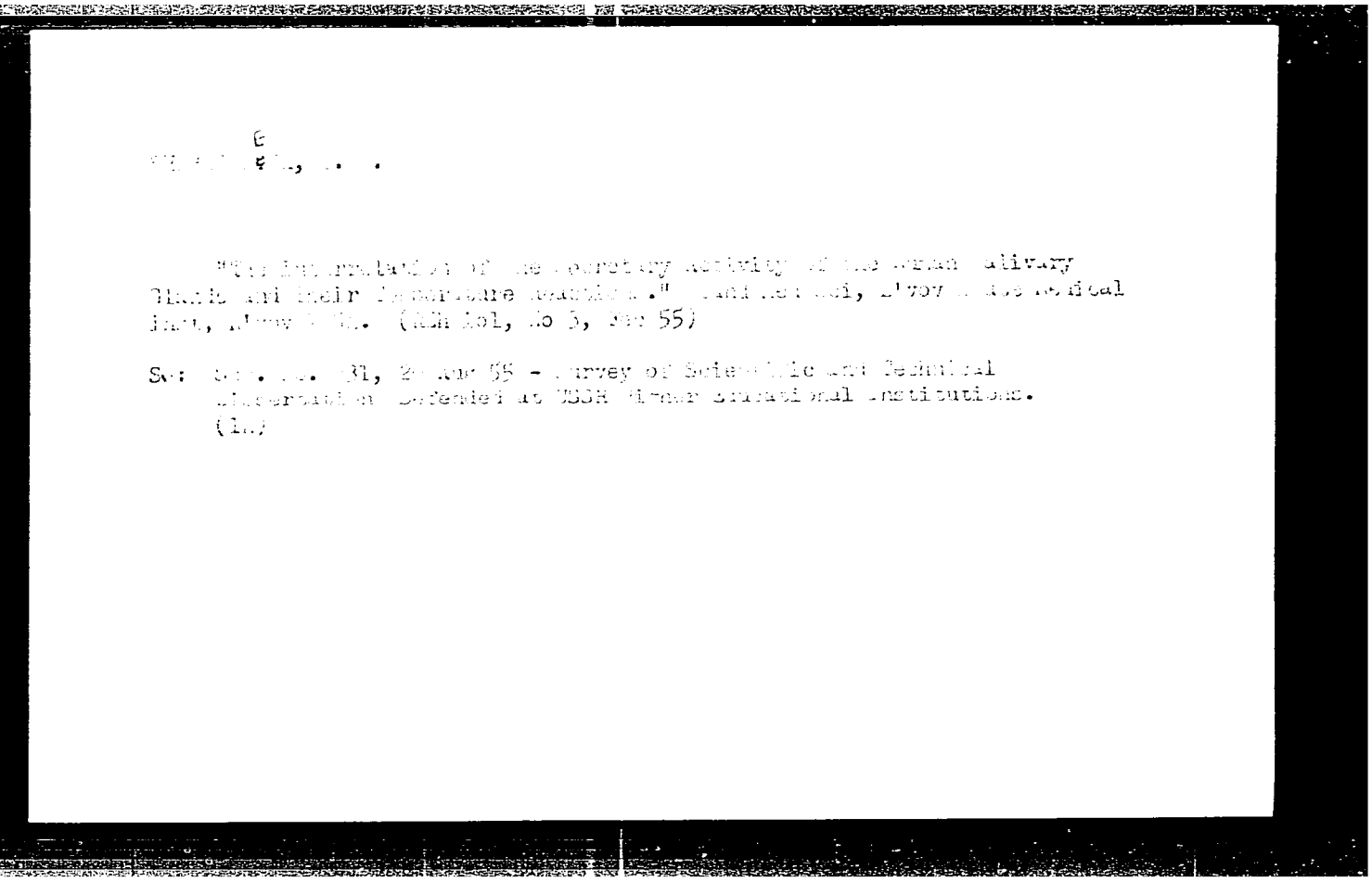
Photochemical and radiochemical...

S/020/63/148/003/033/037
B101/B186

PRESENTED: August 8, 1962, by A. N. Terenin, Academician

SUBMITTED: October 12, 1962

Card 3/3



SHCHEGOLEVA, I.V., kandidat meditsinskikh nauk (Kiyev)

Some changes in salivation in pyorrhea alveolaris. Probl. Stom. 3:199-202 '56 (MLRA 10:5)
(SALIVARY GLANDS) (GUMS--DISEASES)

FUDEL'-OSIPOVA, S.I. [Fudel' -Osypova, S.I.], SHCHEGOLEVA, I.V. [Shchoholieva I.V]

Electrophysiological analysis of afferent impulses of the mandibular nerve [with summary in English]. Fiziol.zhur. [Ukr] 4 no.4:485-494 Jl-Ag '58 (MIRA 11:10)

1. Kiyevskiy stomatologicheskiy institut, kafedra normal'noy fiziologii i Institut ortopedii i travmatologii, laboratoriya fiziologii.
(TEETH--INNERVATION)

FROL'KIS, V.V.; SHCHEGOLEVA, I.V.

Interrealtion of reflex changes in the general and local blood circulation. Biul. eksp. biol. i med. 50 no.10:7-12 O '60.
(MIRA 14:5)

1. Iz kafedry normal'noy fiziologii (zav. - akademik G.V.Fol'bort [deceased]) Kiyevskogo meditsinskogo instituta (dir. - dotsent I.P.Alekseyenko). Predstavlena deystvitel'nym chlenom AMN SSSR B.N.Man'kovskim).

(BLOOD--CIRCULATION) (REFLEXES)

FROL'KIS, V.V.; BUSHMAKINA, Z.I.; SHCHEGOLEVA, I.V.

Mechanism of change in chemoreceptors of the blood vessels in reflex adaptation. Biul.eksp. biol. i med. 51 no.1:8-13 Ja '61. (MIRA 14:5)

1. Iz kafedry normal'noy fiziologii (zav. - akademik AN USSR G.V. Fol'bort [deceased]) Kiyevskogo meditsinskogo instituta i laboratorii fiziolgoii (zav. - doktor meditsinskikh nauk V.V.Frol'kis) Instituta gerontologii i eksperimental'noy patologii. Predstavlena akademikom V.N.Chernigovskim.

(BLOOD VESSELS--INNERVATION) (ADENOSINE PHOSPHATES)
(RESPIRATION)

SHCHERBINA, I.V.

Changes in the sensitivity of the receptors of the carotid sinus during the aging of the body. Biul. eksp. biol. i med. 54 no.8: 37-40 Ag '62. (MIRA 17:11)

1. Iz laboratorii fiziologii (zav. - doktor meditsinskikh nauk V.V. Frol'kis) Instituta gerontologii i eksperimental'noy patologii (dir. - deystvitel'nyy chlen AMN SSSR prof. N.N. Gorev) AMN SSSR, Kiyev.

SHCHEGOLEVA, I.V. [Shchoholieva, I.V.]

Age-related changes in the sensitivity of nerve centers to some humoral stimulants. Fiziol. zhur. [Ukr.] 9 no.5:615-621 S-O'63 (MIRA 17:4)

1. Laboratoriya fiziologii Instituta gerontologii i eksperimental'noy patologii AMN SSSR, Kiyev.

FROL'KIS, V.V.; SHCHEGOLEVA, I.V.

Mechanism underlying sensitivity variations in the chemoreceptors of vessels in an aging organism. Dokl.AN SSSR 148 no.4: 982-984 F '63. (MIRA 16:4)

1. Institut gerontologii i eksperimental'noy patologii AMN SSSR. Predstavleno akademikom L.S.Shtern.
(BLOOD VESSELS--INNERVATION) (REFLEXES) (AGING)

SHCHEGOLEVA, I.V.

Age-related characteristics of the sensitivity of vascular chemoreceptors to the effect of CO_2 and acetylcholine. Vop. geron. i geriat. 4:60-62 '65. (MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

MURAVOV, I.V.; SHCHEGOLEVA, I.V.; DERKACH, N.V.

Blood pressure in persons 80 years of age and older; based on materials of a mass medical screening. Vop. geron. i geriat. 4:72-80 '65. (MIRA 18:5)

1. Institut gerontologii AMN SSSR, Kiyev.

FROL'KIS, Vladimir Veniaminovich, doktor med. nauk; SHCHEGOLEVA, I.V. [Shcheholieva, I.V.], red.

[Modern science on the essence of aging] Suchasna nauka pro sut' starinnia. Kyiv, Zdorov'ia, 1965. 61 p. (MIRA 19:1)

S/196/61/000/011/023/042
E194/E155

AUTHOR: Shchegoleva, I.V.

TITLE: The influence of electromagnetic fields on wire pick-ups (gauges)

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.11, 1961, 2, abstract 11I 9. (Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, no.8, 1960, 98-102)

TEXT: Wire pick-ups are widely used for investigating various machines and engineering structures. Their suitability depends upon the possible influence of external factors which might distort their indication. The object of the investigation was to observe how wire pick-ups made of wires of various alloys behaved in magnetic fields. From the investigations it is concluded that: 1) those employing wires of constantan and nichrome-80/20 alloys can be used on any parts exposed to magnetic fields; 2) those made of any new alloys which have ferromagnetic constituents may need their indications corrected when in magnetic fields. 5 literature references.

Card 1/1 [Abstractor's note: Complete translation.]

TELENT'YEV, Aleksey Vasil'yevich; SHCHEGOLEVA, K.M., retsenzent;
CHERNYSHEV, I.G., retsenzent; KAMENSKAYA, Ye.A., red.

[Ways for automation in fish processing]Puti avtomatizatsii obrabotki ryby. Moskva, Pishchevaia [illegible]. 191 p. (MIRA 17:9)

C

TAKKING, L.R.; SHCHEGOLEVA, N.P.

Electric conductivity of lithium and lithium potassium borox glasses. Uch.zap.Len.un. no.108:17-32 '49. (MLRA 10:3)
(Glass--Electric properties)

SHCHEGOLEVA, O. P.

Chemical composition of by-products from medium finished cattle. N. V. Shirokov, Z. A. Smelova, and O. P. Shchegoleva. *Trudy Vsesoyuz. Nauch. Issledovatel. Inst. Myasnoi Prom.* 1953, No. 5, 84–90; *Referat. Zhur., Khim.* 1955, No. 6763.—P, Ca, Mg, Fe, H_2O, ash, lipides including fats, proteinaceous substances (total and particularly collagen and elastine), and extractable and other substances were detd. in tongue, kidneys, brain, heart, liver, lips, udder, lungs, ears, head, and tail of cattle. The total calorie value of by-products was calcd. P was detd. particularly in proteins, lipides, extractive substances, and inorg. phosphates. In addn. were detd. tyrosine, tryptophan, and cystine. The analytical methods are described.

M. Hoseh

Mek 3

USSR/Chemical Technology - Chemical Products and Their Applications. Water Treatment. Sewage Water. I-11

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62494

Author: Volovinskaya, V. P., Shcheglova, T. P.

Institution: None

Title: Investigation of the Sewage of the Moscow Meat Combine imeni A. I. Mikoyan

Original Periodical: Tr. Vses. n.-i. in-ta myas. prom-sti., 1955, No 7, 158-161

Abstract: Daily sewage (S) discharge at the combine amounts to 8,000-12,000 m^3 (of which ~50% are household refuse) with a coefficient of nonuniformity of 0.6-1.5. Over the rumen sewers are discharged ~8% S. Composition of S, according to principal indexes (in mg/l): coarse-dispersed admixtures 1,042 (of which 91.2% organic), dense residue 3,084, oxidizability (O_2) 143, BOD_5 724, BOD_{20} 1,010, fats 587. The available purification units (grease trap and manure trap) do not ensure sufficient degree of S purification. Ruman presses reduce the moisture content of rumen to 68-79%.

Card 1/1

SHISHKINA, N.N., kand.tekhn.nauk; SOLOV'YEV, V.I., kand.khimicheskikh nauk
KURKO, V.I., kand.tekhn.nauk; DUBROVINA, L.I., mladshiy nauchnyy
sotrudnik; SHCHEGOLEVA, O.P., mladshiy nauchnyy sotrudnik.

Intensified coloration of sausages cooked in an alternating electric field of high frequency, and the frying of sausages with the use of smoke solutions. Trudy VNIIMP no.9:50-62 '59. (MIRA 13:8)

(Sausages)

VOLOVINSKAYA, [illegible] nauk; KUBASHKINA, S.Sh., starshiy nauchnyy [illegible]; DERGUNOVA, [illegible], starshiy nauchnyy sotrudnik; SHCHEGOLEVA, G.P., starshiy nauchnyy sotrudnik; MERKULOVA, V.K., tekhnik; PAVLOV, D.V., kand. tekhn. nauk; MATROZOVA, S.I., kand. khim. nauk

Use of ascorbic acid, sodium ascorbinate and glutaminate in the production of sausages. Trudy VNIIMP no.11:76-86 '62. (MIRA 18:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti (for Volovinskaya, Rubashkina, Dergunova, Shchegoleva, Merkulova). 2. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti (for Pavlov, Matrozova).

SOLOV'YEV, V.I., kand.khim. nauk; ADUTSKEVICH, V.A., kand.veter. nauk; KUZNETSOVA, G.N., starshiy nauchnyy sotrudnik; VOLKOVA, A.G., starshiy nauchnyy sotrudnik; SHCHEGOLEVA, O.P., inzhener-khimik; AGAPOVA, Z.A., mladshiy nauchnyy sotrudnik; AGLITSKAYA, A.V., mladshiy nauchnyy sotrudnik; KRAKOVA, V.Z., mladshiy nauchnyy sotrudnik

Investigations in the field of meat aging. Trudy VNIIMP no.14: 20-35 '62. (MIRA 16:8)

(Meat—Analysis)

SOLOV'YEV, V.I.; SHCHEGOLEVA, O.P.; AGAPOVA, Z.A.

Initial stage of proteolysis of protein fractions of myosin during the process of meat ripening. Biokhimiia 29 no.3:393-398 My-Je '64. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut myasnoy promyshlennosti, Moskva.

SOLOV'YEV, V.I., kand. khim. nauk; SHCHEGOLEVA, O.P., ispolnyayushchiy obyazannosti inzhenera-khimika

Changes in the protein system of meat during its aging. Report No.1. Trudy VNIIMP no.16:119-155 '64. (MIRA 18:11)

YORGANOV, A. S., SHCHEGOLEVA, P. F.

Bleaching

Continuous rapid method for bleaching soiled cotton sacking.
Tekst. prom. No. 5, May 1952.

9. Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

KOLYKHALOV, P.A.; SHCHEGOLEVA, R.I.; VASIL'YEVA, I.N.; GUDKOVA,T.K.; MAKOVSKAYA, N.G.; TOLSTYKH, A.S.; KRAMCHENKOVA, L.V.; NEDZVETSKAYA, G.V.; STROKOVA, A.Ya.; GERMANOVICH, N.N., red.; KARZHAVINA, Ye., tekhn.red.

[Economy of Lipetsk Province; a statistical manual] Narodnoe khoziaistvo Lipetskoi oblasti; statisticheskii sbornik. Lipetsk, Lipetskoe knizhnoe izd-vo, 1959. 182 p. (MIRA 13:6)

1. Lipetskaya oblast'. Statisticheskoye upravleniye. 2. Statisticheskoye upravleniye Lipetskoy oblasti (for Kolykhalov, Shchegoleva, Vasil'yeva, Gudkova, Makovskaya, Tolstykh, Kramchenkova, Nedzvetskaya, Strokova). 3. Nachal'nik Statisticheskogo upravleniya Lipetskoy oblasti (for Germanovich).
(Lipetsk Province--Statistics)

SHCHEGOLEVA, R. M., Cand Tech Sci -- (diss) "Study of the reaction of azo-coupling of weakly-active diazo-components with azotoles." Moscow, 1959. 14 pp; (Moscow Textile Inst); 150 copies; price not given; (KL, 31-60, 142)

SHCHEGOLEVA, R.M., inzh.; SADOV, F.I., prof.

Combination of low-action diazo constituents with azotols.
Tekst. prom. 19 no.7:62-64 Jl '59. (MIRA 12:11)
(Azo dyes)

SHCHEGOLEVA, R.M., inzh.; SADOV, F.I., prof.

Combination of low-action diazo constituents with azotols.
Report No.2: Tekst.prom. 19 no.8:37-39 Ag '59.
(MIRA 13:1)

(Azo dyes)

SHCHEGOLEVA, R.M.

Studying the coupling reactions of relatively inactive diazo components with azotols. Nauch.-issl.trudy IvNITI 23:172-184 '59. (MIRA 14:4)

(Azo dyes)

SHCHEGOLEVA, R.M., kand.tekhn.nauk, nauchnyy sotrudnik; ZAKHAROVA, T.D., inzh., nauchnyy sotrudnik

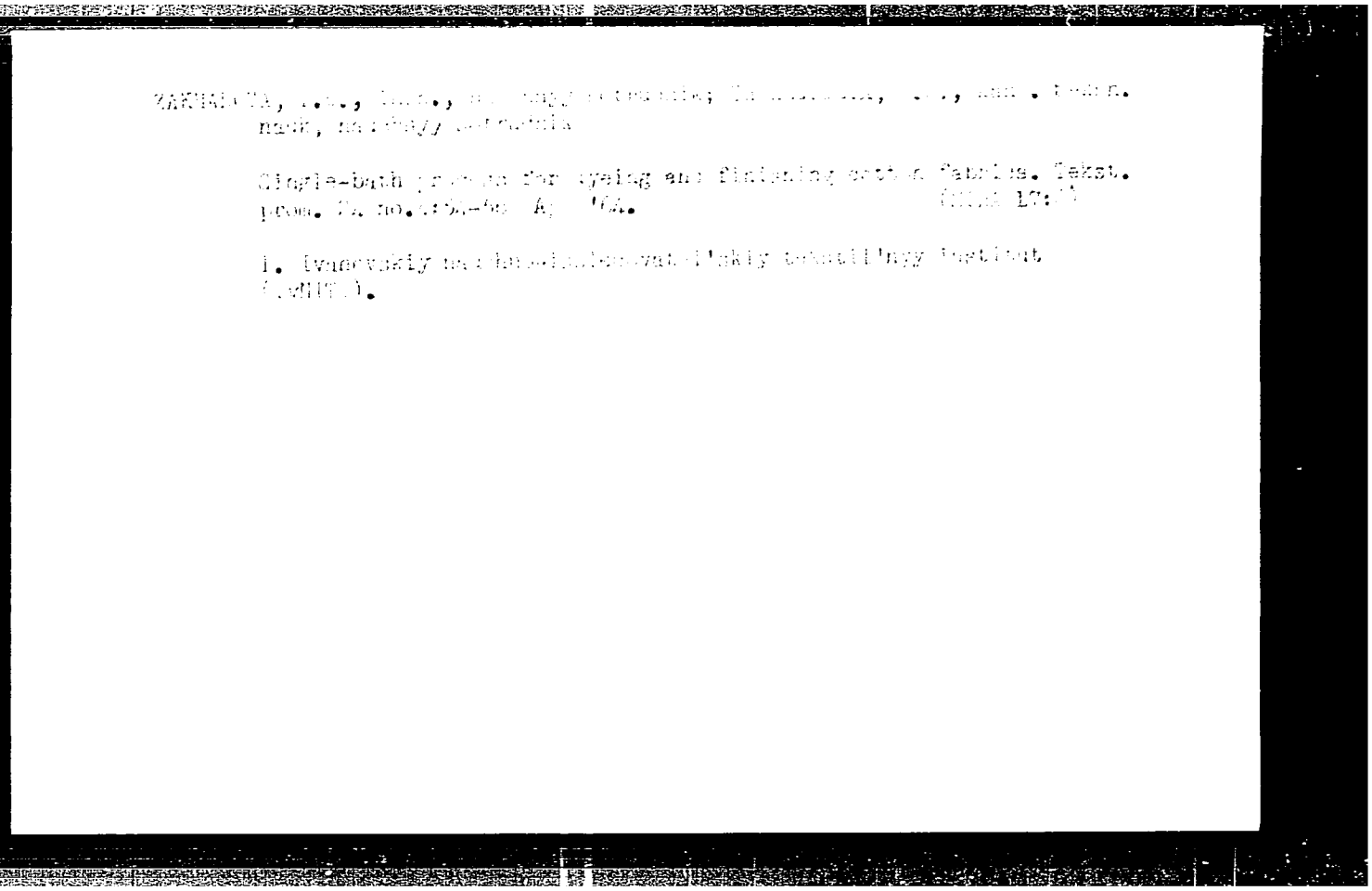
Effect of light weather on fabrics manufactured from a cotton and lavsan blend. Tekst.prom. 22 no.10:61-64 O '62.
(MIRA 15:11)

1. Ivanovskiy nauchno-issledovatel'skiy institut tekstil'noy promyshlennosti (IvNITI).
(Textile fabrics—Testing)
(Dyes and dyeing—Textile fibers)

PLAKSIN, S.A., starshiy nauchnyy sotrudnik; SHCHEGOLEVA, R.M., starshiy nauchnyy sotrudnik

Method of fabric dyeing with indigosols and vatsols in light and medium dark shades. Tekst.prom. 23 no.5:68-70 My '63. (MIRA 16:5)

1. Ivanovskiy nauchno-issledovatel'skiy tekstil'nyy institut (IvNITI).
(Dyes and dyeing) (Textile fabrics)



BOROK, B.A., GOLUBEVA, L.S., SHCHEGOLEVA, R.P.

Effect of heat treatment on the structure and properties of titanium alloys. Titan i ego splavy no.3:10-16 '60.
(MIRA 13:7)
(Titanium alloys--Heat treatment)

18.6100

S/136/60/000/03/013/020
E071/E435

AUTHORS: Timoshenko, N.N., Borok, B.A., Petunina, Ye.V., Shchegoleva, R.P. and Golubeva, L.S.

TITLE: Titanium Based Metalloceramic Alloys

PERIODICAL: Tsvetnyye metally, 1960, Nr 3, pp 68-74 (USSR)

ABSTRACT: The branch of Powdered Metallurgy of the Central Iron and Steel Scientific Research Institute produces titanium based alloys in the form of sintered semis up to 80 kg which are worked into rods, sheets, strip, plates and wire. At present, equipment is being introduced for pressing semis up to 250 kg in weight. The experimental material on the influence of various alloying elements on titanium (IMP-1A) accumulated in the Institute is briefly described. The influence of aluminium, vanadium, iron, manganese, tin and niobium on the mechanical properties of IMP-1A alloy (strength at +20 and + 400°C; reduction in arc (neck) at +20 and -60°C) is shown in the plot, Fig 1. Of the titanium alloys for the production of sheets the most systematic investigation was carried out for the ternary system Ti-Al-V. The alloy IMP-7 (Ti + 3% Al + 2% V) is

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E071/E435

Titanium Based Metalloceramic Alloys

being produced; the properties of this alloy are given in Table 1. The manufacture of an alloy of Ti + 4% Al + 2% V (IMP-9) is proposed for the production of sheets for operating at elevated temperatures (400 to 500°C; properties given in Table 2). Alloys for the production of hot rolled tubes, forging and stamping (IMP-6/1 and IMP-6/2, composition as given Table 4), after hot working by pressure, possess the structure of metastable β phase with a small amount of α phase. This makes it possible to limit thermal treatment only to annealing of forged and hot rolled metal. The dependence of hardness of the above alloys on annealing temperature (200 to 600°C) is shown in Fig 3. The heat resistant alloy T.4 is a six component metalloceramic alloy (composition not given) and was developed for forging and stamping. The dependence of its mechanical properties on temperature is plotted in Fig 4. Titanium alloys possessing the best strength and plasticity for the production of parts by sintering (with minimum subsequent machining) were

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S/136/60/000/03/013/020
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Titanium Based Metalloceramic Alloys

found to belong to binary systems of Ti-V and Ti-Mo and ternary alloys of the above systems with aluminium. Their compositions and mechanical properties are given in Table 5. Properties of γ phase of heat resistant alloys of the Ti-Al system are briefly discussed. Data on the hardness of this type of alloy and its susceptibility to oxidation are given in Table 6, and Fig 5 respectively. Alloying of the alloy Ti + 33% Al with 2% nickel improves its working properties. A high resistance of this type of alloy to oxidation, a low decrease in strength with increasing temperature, low specific gravity (about 3.5 g/cm^3) and the possibility of improving their technological properties by alloying, makes them suitable for the development of heat resistant alloys. There are 5 figures, 6 tables and 4 references, 3 of which are Soviet and 1 English.

Card 3/3

SHCHEGOLEVA, R.P., GOLUBEVA, L.S.

High specific strength ceramic metal alloys. Titan i ego splavy no.3:84-89 '60. (MIRA 13:7)
(Ceramic metals--Testing) (Metals at high temperatures)

18 1285

S/129/61/000/004/006/012
E073/E535

AUTHORS: Golubeva, L. S. and Shchegoleva, R. P., Engineers

TITLE: Structure and Mechanical Properties of High Alloy Titanium Alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No. 4, pp. 28-30 + 1 plate

TEXT: The authors studied the cause of changes in the mechanical properties of the following two medium alloyed titanium alloys after heat treatment:

Table 1

No. of alloy	Contents in % Fe	Mn	Cr	Al
1	3	3	3	-
2	3	-	5	3

These alloys are designed for manufacturing forgings and hot rolled tubes. The structure of the alloys after forging.

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broaching or rolling is a three-phase one: $\beta + \alpha + \omega$. The quantity of the ω-phase is small and therefore it is not always detected on X-ray diffraction patterns. Under certain conditions eutectoidal transformations and also formation of metastable β and ω phases are observed. Blanks for the investigations were produced by powder metallurgy methods from titanium powder containing 0.12% Fe, 0.074% Si, 0.12% Ni, 0.022% Al, 0.052% Ca, 0.003% H, 0.18% O, 0.01% N. The sintered blanks were forged into 16 mm diameter rods at 1000 to 700°C. Since titanium alloys of the binary systems Ti-Fe, Ti-Cr, Ti-Mn belong to the eutectoidal systems, the authors considered it of interest to establish the proneness of these alloys to embrittlement after annealing at 400, 500 and 600°C for 100 hours. The mechanical properties of forged rods and rods annealed at 700 and 800°C after heating for 100 hours at 400, 500 and 600°C are given in Table 2, each figure representing the average values of 5 tests. It can be seen from Table 2 that with increasing heating temperature the plasticity of alloy 2 decreases, whilst that of alloy 1 increases. The strength of the forged alloy 1 after 100 hours at 400, 500 and

600°C decreases, whilst its ductility increases; this is attributed to an increase in the quantity of the α-phase. Heating of the alloy 1 for 100 hours at 400, 500 and 600°C leads to the transformation $\beta + \alpha + \omega \rightarrow \beta + \alpha$. The strength of the annealed alloy 1 after heating for 100 hours at 400-600°C changes insignificantly, but its ductility increases in the case of heating temperatures of 400 and 500°C and decreases for a heating temperature of 600°C. The increased ductility is attributed to an increase in the quantity of the α-phase, which also increases as a result of ageing. The ageing curves of the two alloys after quenching in water from 900°C are plotted in Fig.2, the top graph relates to alloy 1, the bottom graph to alloy 2. These curves indicate that both alloys contain a β stabilizer above the critical value. Whilst at ageing temperatures of 200, 300 and 400°C the rejection of the ω-phase only is observed, in the case of ageing at 500°C formation of the ω-phase followed by formation of the α-phase was observed.
There are 2 figures, 2 tables and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: TsNIIChM

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18 1125

S/149/61/000/007/008/016
E073/E535

AUTHORS: Shcherbina, R.P., Golubeva, L.S. and Ruchkeyeva, N.A., Engineers

TITLE: Embrittlement of titanium-chromium alloys during eutectoidal transformation

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1961, No. 7, pp. 35-36 + 1 plate

TEXT: The diagram of state of the Ti-Cr system is characterized on the titanium side by a two-phase region ($\alpha + \beta$) and a eutectoidal transformation ($\beta \rightleftarrows \alpha + TiCr_2$) (Refs. 1 and 2: P. Duwez, Taylor J.L., TASM v. 44, 1952; A.D. McQuillan, Journal Institute of Metals, v. 80, 1951-1952, respectively). This occurs at 670-675 °C and the speed of transformation is extremely slow (Ref. 3: Bagryanskiy, Yu.A., Nesova, G.I., Tagunova, T.V., Zhurnal neorganicheskoy khimii AN SSSR, vol. 3, issue 3, 1958). The structure of hypoeutectoidal alloys remains metastable ($\alpha + \beta$) even after annealing. Heating of alloys in the ($\alpha + \beta$) state below the eutectoidal transformation temperature may bring about a decomposition of the β-phase which is accompanied by embrittlement. The authors studied the influence of long duration holding

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Embrittlement of [illegible]tanium-chromium S/129/61/000/007/008/016
E073/E535

at 300 to 600°C on the mechanical properties and the structure of Ti-Cr alloys. Commercially pure titanium [illegible] (IMP-1A) was used (composition: 0.21% Fe, 0.06% Si, 0.16% Ni, 0.05% N, 0.03% C, 0.05% Ca and 0.2% O). The alloys were produced by powder metallurgy methods. The investigations were made on forged 16 mm diameter rods which were held for one hour at 730°C, cooled in the furnace and following that heated additionally for durations of 1 to 300 hours at 300, 350, 400, 450, 500 and 600°C. It can be seen from the obtained results, which are tabulated, that heating at 300 C for 100-200 hours does not bring about a change in the mechanical properties. Heating at 350 C for 200-300 hours results in a slight decrease in plasticity, i.e. the contraction decreases to 14.3 and 16.1% respectively from 19.9% in the annealed state. Only a slight increase in strength and hardness were observed. Increase in the heating time at 400 C from 25 to 200 hours leads to a drop in plasticity, the contraction decreasing from 20.9 to 9.9%. The most pronounced embrittlement occurs at 450, 500 and 600 C, holding for one hour at 600°C brings about a drop in the contraction by a factor of 2. The

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authors considered it of interest to study the changes in the microstructure which are associated with embrittlement. The shape of the rejected particles of the α-phase depends on the temperature conditions of the deformation: an "acicular" structure corresponds to terminating the forging above 800°C a "granular" structure corresponds to a termination of the forging below 700°C. Microstructure photographs are reproduced of an alloy with 5% Cr and an "acicular" structure after annealing and after additional holding at 500°C for 100 hours the additional holding at this temperature produces darkened sections of the β-phase. X-ray structural investigations (carried out by Candidate of Technical Sciences T. V. Tagunova) have shown that in the annealed state the alloy has a two-phase α + β structure. After additional holding at 350°C for 100 hours the β-phase lines become weaker and at 500 to 600°C they cease completely. No lines of the corresponding intermetallic $TiCr_2$ compound were detected in this case. The microstructures of alloys with 10, 15 and 20% Cr revealed darkened β-phase sections after annealing, followed by subsequent heating whereby for alloys with a higher chromium

concentration a eutectoidal structure could be observed. In this case the X-ray patterns revealed lines corresponding to the $TiCr_2$ compound which were most clearly visible on alloys with 15 and 20% Cr. In these alloys eutectoidal β-phase decomposition is accompanied by an appreciable increase in hardness. Table 2 shows the hardness of alloys with 10 to 20% Cr.

Table 2

Chromium content in %	H_{RC} after annealing at 1000 C	H_{RC} after annealing at 600 C for 100 hours
10	32	34
15	37	39
20	39	43

The data given prove that embrittlement of an alloy containing 5% Cr after long duration soaking below the eutectoidal temperature is due to eutectoidal β-phase transformation. Absence of lines corresponding to the $TiCr_2$ compound in an alloy containing 5% Cr is explained by the inadequate sensitivity of the X-ray method. There are 3 figures, 2 tables and 3 references:

Card 4/5

Embr[illegible]tlement of titanium chromium S/129/61/000/007/008/016
E073/E535

1 Soviet and [illegible] non-soviet

ASSOCIATION: [illegible]

Abstractor's Note: This is a complete translation except that Table 1 and microphotographs have not been included.

X

Card 5/5

S/598/62/000/007/018/040
D290/D307

AUTHORS: Kornilov, I. I., Mikheyev, V. S., Pylayeva, Ye. N., Volkova, M. A., Borok, B. A., Shchegoleva, R. P. and Golubeva, L. S.

TITLE: The effect of aluminum on the structure and properties of a Ti-Al-Cr-Fe-Si-B alloy prepared by powder metallurgy

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7. Moscow, 1962. Metallokhimiya i novyye splavy, 150-154

TEXT: The authors studied the effect of varying amounts of Al in Ti-Al alloys (1 - 7% by weight Al) and in alloys of the Ti-Al-Cr-Fe-Si-B system (1.5 - 12% by weight Al) on the structure and properties of the alloys. Strength of the Ti-Al alloys increased from 77.2 to 107-3 kg/mm^2 as the Al content rose from 0 to 7%; the strength of alloy AT4 (AT4) increased from 104 to 142 kg/mm^2 as the Al content rose from 1.5 to 10%. Plasticities of the alloys decreased and the heat resistance of AT4 increased as the aluminum

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The effect of aluminum ... S/598/62/000/007/018/040
D290/D307

contents became higher. The rate of oxidation of AT4 in air at 700°C decreases by about 60% as the Al content rose from 5 to 12% by weight. There are 4 figures and 4 tables.

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S/598/62/000/007/019/040
D290/D307

The effect of silicon ...

sticities of the alloys decreased with rising Si content. AT4 containing 0.5% Si withstands a continuous stress of 30 kg/mm^2 at 500°C for about 100 hours. The corrosion resistance of AT4 at 700°C is approximately doubled by the addition of 0.5% Si. There are 4 figures and 4 tables.

Card 2/2

S/129/63/000/002/006/014
E193/E383

AUTHORS: Borok, B.A., Novikova, Ye.K., Golubeva, L.S., Shchegoleva, R.P. and Ruch'yeva, N.A.

TITLE: Dilatometric studies of binary titanium-base alloys

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 2, 1963, 32 - 36

TEXT: Dilatometric curves were constructed in the 20 - 900 °C range for the binary Ti-Fe, Ti-Cr, Ti-Co, Ti-Mo, Ti-V, Ti-Nb and Ti-Ta alloys containing 2-10% of the alloying elements, the constitution of these alloys was determined by metallographic and X-ray diffraction analysis, and the hardness of the alloys after various heat-treatments was measured. Experimental test pieces were prepared by powder metallurgy. No deflection points were observed on the dilatometric curves in the case of specimens annealed by heating to 800 or 900 °C with slow cooling; the slope of the curves was constant, indicating that the coefficients of thermal expansion of the alloys studied in the annealed condition were constant. The hardness of the annealed alloys was either equal to or higher than that of the specimens quenched from the β-range,

Card 1/4

Dilatometric studies ....

the effect of the alloying-elements content (%) on the hardness (HRC) of the quenched alloys being shown in Fig. 1. The dilatometric curves of alloys with a sufficiently high content of elements stabilizing the β-phase (Fe, Cr, Co) had deflection points in the temperature range of the ω-transformation. The alloy with the critical (4%) concentration of Fe had in the quenched condition a two-phase (β + ω) structure and high (RC 51.5) hardness. The dilatometric curve of this alloy showed no contraction associated with the formation of the ω-phase and the expansion due to a reversible $(\beta + \omega) \rightleftarrows (\beta + \alpha)$ transformation started at 420 and ceased at 490 °C. In the case of the quenched alloy with 6% Fe, consisting of the β- and partially precipitated ω-phases (hardness 44.5), the ω-phase was precipitated completely on heating, as a result of which the hardness of the alloy increased to RC 53; the dilatometric curve showed a contraction associated with the $\beta \rightleftarrows \omega$ transformation in the 170 - 400 °C range and an expansion in the 475 - 500 °C interval, where the $(\beta + \omega) \leftrightarrows (\beta + \alpha)$ transformation took place. The hardness of quenched alloys with 8% Fe, consisting of the stabilized β-phase, increased on heating from 41.5 - 53. The small contraction and expansion on the dilatometric curve of

Dilatometric studies ....

this alloy indicated only a partial precipitation of the ω-phase. Similar effects were observed in the Ti-Cr alloys in which, however, the volumetric changes were less pronounced; the critical Co content was about 3.5% in the case of the Ti-Co alloys. X-ray diffraction analysis showed that quenched specimens of the 4% Co-Ti alloy had a two-phase structure (β- and partially precipitated ω-phase); the precipitation of the ω-phase in this alloy on heating (indicated by an increase in hardness from 48 - 50 RC) was, for some unknown reason, not reflected by deflection points on the dilatometric curve. In the case of the Ti-Mo alloys the volumetric effect was observed in the 10% Mo alloy only, indicating that the ω-transformation did not take place in alloys containing 2 - 8% Mo. No deflection points were observed on dilatometric curves for the Ti-V, Ti-Nb and Ti-Ta alloys. This was attributed to the fact that the ω-phase in these alloys could be formed only at a high concentration of the alloying elements (12 - 13% V, 23 - 30% Nb and 26 - 40% Ta). There are 3 figures and 1 table.

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